

PATENT
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UNITED STATES PATENT APPLICATION

of

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for a

RAMP SYSTEM

RAMP SYSTEM

BACKGROUND OF THE INVENTION

This invention relates to skate park and street play equipment for use by extreme sport enthusiasts such as skateboarders, skaters and bikers. It relates especially to a ramp system which enables such people to perform a variety of different aerial and acrobatic feats.

The various obstacles used by skateboarders, skaters and bikers include launch and landing ramps, grind rails, fly boxes and the like which launch the riders into the air and enable them to perform various acrobatic and aerial feats before returning to the ground either directly or via a landing ramp. However, there is a need for a ramp system capable of providing each rider with another aerial capability which should increase his/her ability and enjoyment.

SUMMARY OF THE INVENTION

Accordingly, it is an object of this invention to provide a ramp system for bikers, skateboarders and skaters which enables such individuals to perform acrobatic feats not feasible with existing obstacles of this general type.

Another object is to provide such a ramp system which may be sold in a knock-down condition and assembled easily using only a screwdriver and which may subsequently be disassembled and reassembled without any tools at all.

Another object is to provide a ramp system such as this which is relatively easy and inexpensive to make in quantity.

A further object is to provide a modular ramp system which may be expanded to any size by combining a plurality of similar modules.

5 Other objects will, in part, be obvious and will, in part, appear hereinafter.

The invention accordingly comprises the features of construction, combination of elements and arrangement of parts which will be exemplified in the following detailed description and the scope of the invention will be indicated in the claims.

Briefly, our ramp system for bikers, skateboarders and skaters includes first and
10 second ramps arranged back to back, each ramp having first and second ends and an up-
per surface extending between those ends. A connection connects the first ends of the
ramps so that the ramps form a cusp or peak and the second ends of the ramps are spaced
apart and define a plane spaced below the cusp. Preferably, a rigid rail extends the widths
of the ramps at the first ends thereof to define a spine or coping rail and the upper sur-
15 faces of the ramps at the first ends thereof are generally tangent to that rail. Thus, skate-
boarders, skaters and the like can roll up one ramp, travel along the spine or coping rail at
the top of the system which thus functions as a grind rail and roll down the same or the
other ramp to the ground. Alternatively, he/she can roll up one ramp and be launched
into the air and perform various aerial feats before returning to the ground.

20 The system can be used by itself or constitute one of a series of similar assemblies
to enable a succession of skateboarders, skaters and the like to perform a variety of dif-
ferent exercises.

BRIEF DESCRIPTION OF THE DRAWINGS

For a fuller understanding of the nature and objects of the invention, reference should be made to the following detailed description taken in connection with the accompanying drawings, in which:

5 FIG. 1 is a perspective view of a ramp system incorporating the invention;

FIG. 2 is an exploded perspective view showing the underside of a portion of the

FIG. 1 system prior to its assembly;

FIG. 3 is a fragmentary perspective view showing the mode of assembling FIG. 1

ramp system, and

10 FIG. 4 is a fragmentary perspective view showing the underside of the FIG. 1

ramp system.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1 of the drawings, our ramp system 8 comprises a launch ramp shown generally at 10 and a landing ramp showing generally at 12, which ramps are interchangeable. The ramps are arranged back to back and have corresponding upper ends 10a and 12a which are connected together to form a cusp or peak 14. The ramp lower ends 10b and 12b are spaced relatively far apart and define relatively sharp edges which lie in a common plane. Thus, when the ramp system is placed on the ground or other support surface, a rider rolling along the ground can ride up one ramp and return to the

15 ground via the other ramp.

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Preferably, the ramp system includes a rigid coping rail or spine shown generally at 14 at the upper ends of ramps 10 and 12. Rail 14 extends the entire widths of the ramps

and it has a relatively large diameter, e.g. 2 inches, so that it can function as a grind rail for skateboarders and skaters using the system.

Preferably also, braces 16 are connected between ramps 10 and 12 below rail 14 to prevent the ramps from spreading apart and to maintain the rail 14 at a fixed elevation 5 above the ground or other support surface. The rail 14 of a typical ramp system 8 that is 42 inches wide and 77 inches long (i.e. between ends 10b, 12b) may be spaced about 22 inches above the ground.

Thus, a skater or skateboarder can be launched into the air via one ramp 10, 12, grind along rail 14 and roll down the other ramp 12, 10. As we shall see, ramp system 8 10 may be connected on either side to similar ramp systems 8 as shown in phantom in FIG. 1 to form a row of ramp systems of any width. Likewise, a plurality of such systems may be positioned one in front of the other to form a series of obstacles confronting skaters, bikers or the like.

Referring now to FIGS. 1, 2 and 4, each ramp 10,12 comprises a pair of identical 15 ramp sections 22. Each ramp section has an upper wall 22a and opposite depending side walls 22b and 22c. Lateral and longitudinal ribbing 24 extends down from top wall 22a forming a grid between the side walls of each ramp section 22 to rigidify that section. Preferably, the upper surface 22a of each section defines a concave arc, and more specifically a spiral arc to optimize the launching characteristics of each ramp 10,12.

20 As best seen in FIGS. 2 and 3, the side wall 22b of each section 22 is formed with a series of spaced-apart wedge-shaped keys 28 which project out from that side wall and point toward the upper wall of the ramp section, each key having a projecting edge or

nose 28a. The opposite side wall 22c of each section 22, on the other hand, is formed with a companion series of keyholes or notches 32 which are spaced along wall 22c so that when two sections 22 are placed side by side, the keys 28 of one section can key into the keyholes or notches 32 of the adjacent section so as to lock the two sections together.

5 Preferably, each ramp section side wall 22c also has a gutter 34 along its lower edge which is arranged to receive the lower edge of the side wall 22b of the adjacent ramp section 22 to hold together the lower edges of the side walls of the two adjacent sections. In addition, ideally the keyholes 32 are longer or higher than keys 28 so that when assembling the two sections 22 of each ramp 10, 12 the side wall 22b of one section
10 may be seated in gutter 34 of the other section and the two side walls 22b and 22c brought together so that keys 28 project through keyholes 32. The keyholes 32 also have a shorter offset or side branch 32a which allows the two sections 22 to be slid relatively in a lengthwise direction until the ends of the two sections are in alignment. This positions the nose 28a of each key behind the portion of side wall 22c defining the upper end
15 of each keyhole side branch 32a, this locking the keys in their keyholes.

Not only do the keys 28, keyholes 32 and gutter 34 secure together the adjacent ramp sections 22 of each ramp 10, 12, they also permit the connection of a ramp system 8 to an adjacent similar ramp system 8 as shown in phantom in FIG. 1.

As best seen in FIGS. 2 and 3, the upper end of each ramp section 22 is formed
20 with a pair of tongues 42 which project out from that end at spaced-apart locations the-
reacross. One of the tongues 42 is set in from the side wall 22c of the ramp section
while the other tongue 42 is even with the side wall 22b thereof. This produces a pair of
notches 44 at that end of the ramp section, one notch 44 being located adjacent to the side

wall 22c of the ramp section and the other notch being located between the two tongues 42 of that section.

As shown in FIGS. 1 and 3, when two ramp sections 22 are positioned back to back, the tongues 42 of one section are disposed opposite the notches 44 of the other section so that the former can be received in the latter. Preferably, the tongues 42 are curved. More specifically, the inside surface 42a of each tongue has cylindrical curvature with a radius that more or less matches that of the rail 14. This allows the rail 14 to seat on the tongues of the two ramp sections 22 forming one of the ramps, i.e. ramp 10 in the drawings, so as to bridge the notches 44 in that ramp. As best seen in FIG. 2, the rail 14 may be secured to the tongues of that ramp 10 by threaded fasteners 46 which are inserted through holes or passages 48 in tongues 42 and turned down into holes 50 present in rail 14. When the rails are secured to the two ramp sections 22 comprising ramp 10, the rail extends the entire width of that ramp and bridges all of the notches 44 therein. If rail 44 constitutes a tube, it is preferably provided within plugs or caps 14a to close and finish the ends of the rail.

Once rail 14 is secured to ramp 10, the other ramp, i.e. ramp 12, may be releasably secured to ramp 10 by placing the ramp ends 10a and 12a opposite one another and spreading apart the opposite ends 10b and 12b of the ramps so that the two ramps are more or less flat as shown in FIG. 3. Then, the tongues 42 of ramp 12 may be inserted from below into the notches 44 of ramp 10 behind rail 14. Preferably, the outer or under surfaces 42b of tongues 42 and the end walls 44a of notches 44 are curved correspondingly to facilitate this. When the ramp ends 10b and 12b are brought closer together, rail 14 is raised up. This causes the tongues 42 to pivot around rail 14 to the position shown

in FIG. 1 wherein the tongues become locked in their notches just behind the rail and the upper surfaces 22a of all of the ramp sections 22 are oriented so that they are substantially tangent to rail 14 at the upper ends of ramps 10 and 12. This relative position of ramps 10 and 12 is maintained by the braces 16.

5 More particularly, as best seen in FIGS. 1 and 4, the opposite ends 16a of each brace 16 is flattened and formed with a hole 54. The brace ends 16a are positioned against the undersides of the ramp sections 22 of the two ramps 10 and 12 at locations spaced below the rail 14. The brace ends are held in place by flat-head bolts 56 inserted through holes 58 in the top walls 22a of the ramp sections 22 and through the holes 54 in 10 the brace ends. The bolts may be retained in place by wing nuts 60 threaded onto the ends of the bolts as shown in FIG. 4.

While the illustrated ramp system 8 has only two braces 16, holes 58 are provided adjacent both sides of each ramp section 22 as shown in FIG. 4, allowing the inclusion of additional braces 16 if needed.

15 Preferably, a non-skid foot 62, e.g. of rubber, is secured to the underside of each ramp section 22 adjacent to the lower end thereof as shown in FIG. 4. The foot 62 projects somewhat below the lower edges of ribbing 24. Those feet thus firmly contact the support surface under the ramp system 8 when the ramp 10 or 12 is under a vertical load thus preventing the ramp system from shifting when in use.

20 The illustrated foot 62 is in the form of a cup which is pushed into a cylindrical receiver 64 formed by radial rib features 24a in the underside of each ramp section 22.

When the ramp system 8 is not in use, it may be disassembled quite easily and without any tools simply by releasing each brace 16 from ramp 12 by unscrewing the wing nuts 60 thereat. This allows the two ramps 10 and 12 to be spread apart so that the tongues 42 of ramp 12 may pivot out of their notches 44 in ramp 14. Once the two ramps 5 10 and 12 are separated, the ramp 12 may be broken down even more by separating the two ramp sections 22 comprising that ramp. This simply involves shifting the two ramp sections relatively so that the keys 28 of one ramp section are disengaged from the corresponding keyholes 32 in the other ramp section. Those sections can then be stacked on ramp 10 forming a relatively flat compact package which can be stored in a minimum 10 amount of space.

It will thus be seen that the objects set forth above, among those made apparent from the preceding description, are efficiently attained and, since certain changes may be made in the above construction without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying 15 drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention described herein.

What is claimed is: